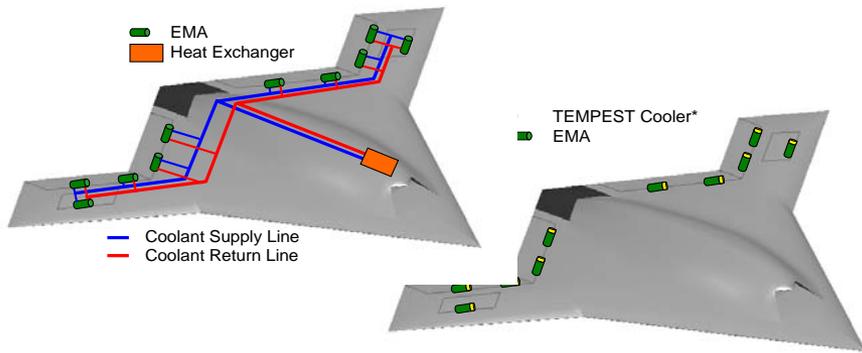




TEMPEST: High Efficiency Air Cooling for Electronics

CONCEPT



High efficiency air cooled power electronics to eliminate secondary liquid cooling loops



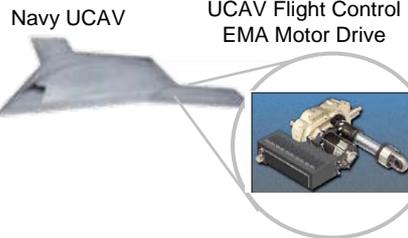
DESCRIPTION / OBJECTIVES / METHODS

- P1: Characterize core heat transfer enhancement and integration technologies to enable design optimization. Validate design elements at sub-scale.
- P2: Prototype full-scale cooling unit. Validate performance and reliability. Develop prototype for selected demonstration application.

MILITARY IMPACT / SPONSORSHIP

- Eliminate weight and power required to drive complex liquid cooling systems for power electronics.

Demonstration Application:



BUDGET & SCHEDULE

Phase I Tasks	Q109	Q209	Q309	Q409	Q110	Q210
1. Baseline System Design & Test Bed Development	Baseline Design & Test Plan Review					
2. Characterization of Cooling System Enhancements	Design System Review					
3. System Design Optimization	Optimized TEMPEST Design Review					
4. Design Validation	Sub-Scale Performance Demos Complete					
5. Program Management	Final Report					
Optional Phase II Tasks	Q310	Q410	Q111	Q211	Q311	Q411
6. Full-Scale TEMPEST System Development	CDR					
7. Full-Scale Application Specific Development	CDR					
8. Program Management	Final Report					

